UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET ,
ATLANTA, GEORGIA 30303-8960

10141329

September 27, 2004

4WD-SRTSB
MEMORANDUM

SUBJECT: Five-Year Review Report
Woolfolk Chemical Works Site
Fort Valley, Peach County, Georgia
GAD003269578

FROM: Charles L. King Jr
Remedial Project Manager

THRU: Carol Monell, Chief
Superfund Remedial and
Technical Support Branch

TO: for Winston A. Smith, Director
Waste Management Division

Attached please find a copy of the Second Five-Year Review Final Report for the Woolfolk Chemical Works Site in Peach County, Georgia. Section 121(c) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended requires that if a remedial action is taken that results in any hazardous substances, pollutants, or contaminants remaining at a site, the Environmental Protection Agency (EPA) shall review such remedial action no less often than each five years after initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented.

The Record of Decision (ROD) for OU1 addressing contaminated groundwater at this Site was signed in March 1994. The PRP performed the remedial action which consisted of the installation of a groundwater extraction and treatment system under a Unilateral Administrative Order. The action began in 1996, and the PRPs ceased operations in September of 2002.

The Record of Decision (ROD) for OU2 at this Site was signed in September 1995. The PRP performed the remedial action which consisted of demolition of several residential properties, removal of contaminated soil, land use consistent with redevelopment for a new library and renovation of two existing structures. In addition, institutional and engineering controls are used in this remedy to minimize the exposure to or migration of contaminants. The action began in 1997, and was completed in 1999.

The Report has gone through EPA Region 4 review. Based upon this review, it has been determined that the remedial action taken at OU2 of this Site continues to be protective of human health and the environment. Deficiencies have been identified in OU1 at this site during

the Five-Year review and the recommended actions contained in this document need to be taken to ensure protectiveness.

Deficiencies:

The groundwater extraction system installed by the PRPs has not successfully contained the contaminated plumes and migration continues from the site underneath the surrounding neighborhood(s). Although the contaminated groundwater continues to migrate off-site, based on the information available, all residents are using municipal water and are not being exposed to the contaminated groundwater.

Recommendations and Required Actions:

The following actions should be taken to ensure protectiveness in Operable Unit 1 at the Woolfolk site. The full extent of groundwater contamination should be identified. The current extraction and treatment system should be restarted, evaluated and modified, where necessary, to efficiently contain, extract and treat the contaminated groundwater from the site to ensure protectiveness and meet appropriate disposal requirements.

Protectiveness Statements:

Although the remedy installed by the PRPs for OU1 is not functioning as intended, the remedy is expected to be protective of human health and the environment upon completion of the implementation of the recommendations above by EPA. In the interim, exposure pathways that could result in unacceptable risk are being controlled because all residents are using municipal water and are not being exposed to the contaminated groundwater.

The remediation, redevelopment and restoration remedy at Operable Unit 2 is expected to be protective of human health and the environment. Exposure pathways that could result in unacceptable risk are being controlled.

At this time we are seeking the Division Director's approval of this document.

Signature of EPA Region 4, Waste Management Division Director and Date

for J. Scott Fehn
Signature

9/28/04
Date

FILE COPY

Georgia Department of Natural Resources
2 Martin Luther King, Jr. Drive, S.E., Suite 1154 East, Atlanta, Georgia 30334
Lonice C. Barrett, Commissioner
Environmental Protection Division
Carol A. Couch, Ph.D., Director
404/656-2833

December 31, 2003

Ms. Sherry McCumber-Kahn
Environmental Engineer
US Army Corps of Engineers
Savannah District
P.O. Box 889
Savannah, Georgia 31402-0889

Re: Woolfolk NPL Site, Fort Valley, Georgia; EPD's review of US Army Corps of Engineers, "First Five-Year Review Report" at the Woolfolk Chemical Works Site, October, 2003.

Dear Ms. McCumber-Kahn:

The Georgia Environmental Protection Division (EPD) has reviewed the above referenced document. The following are comments prompted by review of this document.

1. *Executive Summary, Issues*: the remediation plan for OU3 that was selected by U.S. EPA will include removal of the cap and the partial excavation (i.e., less than 15 feet deep) of the landfill.

2. *Executive Summary, Recommendations and Follow-up Actions*: the report states "that the EPA continue to better identify the horizontal and vertical extent of contaminated ..." EPD suggests that this sentenced be changed to "that EPA continue to establish the horizontal and vertical extent of contaminated ..."

3. *Section VII, Five-Year Review Process, Interviews:* this sentence "Mr. Sliwinski, the EPA contact" should be changed to "Mr. Sliwinski, the EPD contact"

4. *Attachment D, Outlines of Interviews, OU1*: EPD suggests that this sentence be removed from the report "Does not know if treatment system is sufficient to do the job." In addition, for OU2, EPD suggests changing "Many in community were against this" to "Some individuals in the community were against this plan."

EPD approves the US Army Corps of Engineers Five-Year Review Report. If you have any questions regarding the content of this letter, please call James Sliwinski (404) 656-2833.

Sincerely,

Dave Yardumian

David Yardumian
Unit Coordinator
Hazardous Waste Management Branch

File: Woolfolk NPL Site (B)
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Final
Five-Year Review Report

First Five-Year Review Report

For

Woolfolk Chemical Works Site
(EPA ID #: GAD003269578)

Fort Valley, Peach County, Georgia

August 2004

Prepared by:
US Army Corps of Engineers
Savannah District
P. O. Box 889
Savannah, GA 31402-0889

Approved by:

for J. Scott Gr

Winston Smith,
Director, Waste Management Division
US EPA, Region 4

Date:

9/30/04

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Attachments

List of Acronyms

ARAR	Applicable or Relevant and Appropriate Requirement
CD	Consent Decree
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
COC	Chain of Custody
EPA	Environmental Protection Agency
EPD	Georgia Environmental Protection Division
GCL	Geosynthetic Clay Liner
HRS	Hazardous Ranking System
MCL	Maximum Contaminant Level
MCLG	Maximum Contaminant Level Goal
MDL	Method Detection Limit
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priorities List
O&M	Operations and Maintenance
OUs	Operable Units
PCE	tetrachloroethene
PRP	Potentially Responsible Party
QA/QC	Quality assurance / Quality Control
RA	Remedial Action
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI/FS	Remedial Investigation/ Feasibility Study
ROD	Record of Decision
SARA	Superfund Amendment and Reauthorization Act
SVOCs	Semi-Volatile Organic Compounds
TCE	trichloroethene
UAO	Unilateral Administrative Order
USACE	U.S. Army Corps of Engineers
VOCs	Volatile Organic Compounds

Executive Summary

This is the first five-year review for the Woolfolk Chemical Works Superfund Site. The trigger for this statutory review is the 5th anniversary of the inaction of the unilateral administrative order (UAO) by EPA as shown in EPA's WasteLAN database: 29 September 1998. Hazardous substances, pollutants, or contaminants are left on site above levels that allow for unlimited use and unrestricted exposure. There are many contaminants of concern addressed. The dominant contaminant of concern is Arsenic. There are five operable units (OUs) associated with this site: OU1 covers groundwater contamination; OU2 is associated with off-site contamination in the redeveloped areas and covers contamination of soil; OU3 covers on-site contamination in the soil, capped area, buildings, and the stormwater sewer system; OU4 covers off-site contamination including residential soils, attic dust in residences, and the drainage ditch along Preston Street; and OU5 covers contamination associated with the drainage ditch from the Spiller Street pipe past the railroad to Big Indian Creek.

In December 1993, EPA issued a Unilateral Administrative Order that stipulated Canadyne GA Corporaton (CGC), the owner of the site, had to remove residential attic dust, contaminated soil, sediment and buildings that contained high level contamination. Attic dust that contained high levels of arsenic was removed from eight residences. Contamination was excavated from 26 residential properties. Seventeen properties were purchased and converted to non-residential use. Sediment was removed from a drainage area that extended about 0.5 mile from the site. The building that was used in the packing of a product that contained dioxin was demolished and disposed of through incineration. Following this removal action, a ROD was issued for OU1 that required that a pump and treat system be put in to monitor and treat the groundwater at the site. This was completed but never maximized and is currently not in use. A second ROD was issued for OU2 to allow for the redevelopment of the 17 properties purchased during the removal action. These properties were used to build a new library, and two of the buildings were restored for use as a Welcome Center and an Adult Education Center. A third ROD was issued for OU3, but was not implemented. Since the PRPs refused to comply with the UAO, because of lack of funds and because they disagreed with EPA's earlier removal volume estimate, which they believed to be well below what would be required, EPA conducted additional investigations during the initial phase of the RD and identified a significant increase in volume of contaminated material to be treated. An amended Proposed Plan, which identified approximately 80,000 additional cubic yards of contaminated material to be addressed and EPA's preferred cleanup remedy has been issued but is currently under a public comment period. Both OU4 and OU5 are still in the investigative phase and do not have RODs issued yet.

Based on the data reviewed, the site inspection and interviews with the stakeholders, the remedy is not functioning as intended by the OU1 ROD. The OU2 remedy, determined by the ROD, is functioning as intended. The other OUs do not have RODs associated with them. ARARs for drinking water, soil/sediment, and air quality were evaluated to determine if the remedy is protective. Based on the ARAR review, the value for Arsenic drinking water standard (i.e. MCLs) has changed in a way that would affect the protection of the remedy. The remedy will have to be evaluated or adjusted to provide remediation levels that reflect the new groundwater standard. Groundwater

contamination at the site persists above MCLs. Soils, sediment, and dust (associated with residential attics) contamination remains above treatment levels.

Five-Year Review Summary Form

SITE IDENTIFICATION		
Site name: Woolfolk Chemical Works Site (E. Main St., Fort Valley GA 31030)		
EPA ID: GAD003269578		
Region: IV	State: GA	City/County: Fort Valley, Peach County
SITE STATUS		
NPL status: Currently on the Final NPL		
Remediation status (under construction, operating, complete): OU1- Construction complete but not in use at this time, remedy being re-evaluated; OU2 - Complete; OU3 - Alternatives being considered to address risk at site by EPA, the State, and the public, providing comments on preferred remedy; OU4 – Alternatives being considered to address risk at site by EPA, the State, and the public, providing comments on preferred remedy; OU5 – Still in investigative phase, waiting on ecological risk assessment.		
Multiple OU's*: YES Construction completion date: OU1 Construction completed 1998; OU2 – Construction completed 1998; Others not completed		
Has site been put into reuse? OU2 has been put into new use; Other areas have not.		
REVIEW STATUS		
Lead agency (EPA, State, Tribe Federal agency): EPA		
Author name: Sherry McCumber-Kahn		
Author title: Environmental Engineer	Author affiliation: US Army Corps of Engineers, Savannah District	
Review period: 10 June 2003 to 30 September 2003		
Date(s) of site inspection: 10 June 2003		
Type of Review: Post- SARA		
Review Number: 1 (first)		
Triggering action event: 5 year anniversary of first remedial action		
Trigger action date (from WasteLAN): 11/13/1997		
Due date: 12/30/ 2003		

* **"OU" refers to operable unit.**

Five –Year Review Summary Form, cont'.

Issues:

The dominant contaminant of concern is Arsenic. Although all COCs are still included in monitoring plan, remediation of Arsenic is assumed to remediate the other COCs. OU1 covers groundwater contamination. The most recent investigations have shown that although the groundwater extraction and treatment system has been in operation for several years, the groundwater contamination has migrated off-site. The PRPs stopped operation of the pump and treat system in 2002. EPA, using Superfund money has taken over this cleanup and the effectiveness of this treatment system is currently being evaluated. The OU2 remedy is functioning as intended. The remedy for OU3 is still being evaluated but will most likely include removal of the cap and partial (average of 15 feet deep) excavation of the landfill to the extent practicable, demolition and disposal of contaminated buildings, and decontamination of the stormwater sewer system at the site along Preston Street. The specifics are to be determined. OU4 will address arsenic contamination in approximately 60 attics and contaminated surface soil at approximately 40 residences near the former Woolfolk Chemical Works main facility. OU5 is still in the investigative phase.

Based on the data reviewed, the site inspection, and interviews with stakeholders, the groundwater remedy is not functioning as intended by the OU1 ROD. The OU2 remedy is functioning as intended. ARARs for drinking water, soil/sediment, and air quality were evaluated to determine if the remedy is protective. Based on the ARAR review, the value for Arsenic drinking water standard (i.e. MCLs) has changed in a way that would affect the protection of the remedy. The remedy will have to be evaluated or adjusted to provide remediation levels that reflect the new groundwater standard. Groundwater contamination at the site persists above MCLs and has migrated off-site. Soils, sediment, and dust (associated with residential attics) contamination remains above treatment levels.

Recommendations and Follow-up Actions:

It is recommended for OU1, that the EPA continue to establish the horizontal and vertical extent of the contaminated groundwater near the site and to determine whether the current treatment system is sufficient for meeting the needs of the site. If the determination is that the given system is adequate, then it is further recommended that the system be reinstated. If the determination is made that the system is not adequate for remediating the groundwater at the site, then it is further recommended that EPA continue with it's evaluation to determine how to adequately remediate the groundwater and keep the contamination from going further offsite.

The recommendation for OU2 is for soil sampling to be considered underneath renovated buildings to alleviate the citizens' concerns.

Protectiveness Statements:

The remedial actions taken at OU1 are not protective of human health or the environment because the current groundwater extraction and treatment system was unable to contain the plume of contaminated groundwater within the site boundaries. There is also a question of whether the system is adequate in its present configuration to keep the contamination from migrating off-site since this has already happened. Although the contaminated groundwater continues to migrate off the site, based on the

I. Introduction

The United States Environmental Protection Agency (EPA) Region IV has conducted its first five-year review of the remedial actions implemented at the Woolfolk Chemical Works Site. The U.S. Army Corps of Engineers, Savannah District, provided technical support for the review. This review was conducted from June 2003 through September 2003. This report documents the results of that review. The purpose of a five-year review is to determine whether the remedy at a site is protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in Five-Year Review reports. In addition, Five-Year Review Reports identify issues found during the review, if any, and identify recommendations to address them.

EPA conducted this review pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), section 300.430(f)(4)(ii). Because a remedial action was selected that allows contaminants to remain on site above levels that allow for unlimited use and unrestricted exposure, EPA is required to review such action no less than every five years after the initiation of the selected remedial action. The statutory five-year review requirement was added to CERCLA as part of the Superfund Amendments and Reauthorization Act of 1986 (SARA). EPA conducts statutory reviews when both of the following conditions are true: 1) upon completion of the remedial action, hazardous substances, pollutants or contaminants will remain above levels that allow for unlimited use and unrestricted exposure; and 2) the record of decision (ROD) for the site was signed on or after 17 October 1986 (the effective date of SARA).

This is the first five-year review for the Woolfolk Chemical Works Superfund Site. The trigger for this statutory review is the fifth anniversary of the initiation of the first remedial action, as shown in EPA's WasteLAN database: 13 November 1997. Hazardous substances, pollutants, or contaminants are left on site above levels that allow for unlimited use and unrestricted exposure. All OU1 remedies have been constructed but do not continue to operate as intended. All OU2 remedies have been constructed and are operating as intended. OU3, OU4, and OU5 remedies are yet to be determined.

II. Site Chronology

Table 1 lists the chronology of events for the Woolfolk Chemical Works Superfund Site.

Table 1: Chronology of Site Events

OU	Event	Start Date	Completion Date
00	Discovery		06/01/1984
00	Preliminary Assessment		06/01/1985
00	Site Inspection	06/02/1985	06/03/1985
00	HRS Package		10/02/1987
00	Proposal to NPL		06/24/1988
00	NPL RP Search	12/18/1987	10/28/1988
00	RI/FS Negotiations	01/10/1990	04/24/1990
00	Admin Order on Consent		04/24/1990
00	Final Listing NPL		08/30/1990
00	Removal Assessment	09/03/1991	09/03/1991
04	Ecological Risk Assessment		11/15/1992
01	Human Health Risk Assessment		11/30/1992
00	Unilateral Administrative Order		12/01/1993
00	Integrated Assessment	01/18/1994	1/18/1994
01	Record of Decision		03/25/1994
01	PRP RI/FS	04/24/1990	03/25/1994
00	Administrative Records	04/19/1994	04/19/1994
00	Unilateral Administrative Order		05/23/1994
00	RD/RA Negotiations	05/23/1994	05/23/1994
01	Administrative Records	02/25/1992	06/21/1994
00	RD/RA Negotiations	09/29/1995	09/29/1995
02	Record of Decision		09/29/1995
02	PRP RI/FS	04/24/1990	09/29/1995
02	Administrative Records	07/18/1995	10/06/1995
02	PRP RD	09/29/1995	10/03/1996
00	PRP Removal	01/18/1994	09/30/1997
00	PRP Removal	06/03/1996	09/30/1997
01	PRP RD	06/28/1994	11/13/1997
03	Record of Decision		08/06/1998
03	PRP RI/FS	04/24/1990	08/06/1998
03	Administrative Records	05/13/1997	09/01/1998
00	Unilateral Administrative Order		09/29/1998
00	RD/RA Negotiations		09/29/1998
02	PRP RA		07/30/1999
04	PRP RI/FS	04/24/1990	06/23/2000
01	PRP RA	11/13/1997	09/30/2002

III. Background

The Woolfolk Chemical Works Superfund site is located in Fort Valley, Peach County, Georgia. It covers approximately 31 acres, including the former Woolfolk Chemical Works plant (approximately 18 acres) and surrounding commercial areas where contamination has spread. Businesses formerly operating on the property are SurePack, Inc., Georgia Ag Chem, Inc., and the Marion Allen Insurance and Realty Company. Canadyne Georgia Corp. (CGC) also owns a one-acre parcel of site property but does not maintain an active business at the site.

The Woolfolk site is located in an area with mixed commercial and residential uses. Residences are located to the west, south, and east, with homes to the southeast adjoining a pecan orchard. Several businesses and light industries are located along the north, northwest, and east ends of the former plant, including the Norfolk Southern Railroad tracks and station.

Since the 1920s, the Woolfolk facility has been used for the production and packaging of organic and inorganic insecticides, including arsenic. Arsenic trichloride was reportedly produced at the facility for the War Production Board. Production was expanded during the 1950s to include the formulation of various organic pesticides, including DDT, lindate, toxaphene, and other chlorinated pesticides. These organic pesticides and other insecticides and herbicides were formulated, packaged, or warehoused at the facility.

In 1986-87, an interim soil remediation was performed at the Woolfolk facility. The major remediation activities consisted of demolishing several buildings and excavating approximately 3700 cubic yards of soil contaminated with Lead and Arsenic. All contaminated soil above a certain level of contamination was disposed of at a permitted hazardous waste landfill in Alabama. Other soils and debris were disposed of underneath an on-site cap, currently owned by CGC. CGC informed the Georgia Environmental Protection Division (EPD) of the investigations and cleanup activities.

During the Remedial Investigation/Feasibility Study (RI/FS), arsenic contamination was found in soils in residential yards near the Woolfolk facility. The removal of residential soil contamination, relocation of some residents, together with demolition of a dioxin contaminated on-facility building has been completed.

In all, five operable units (OUs) have been designated at the site. OU1 addresses contamination of groundwater. The Final FS was completed in December 1993, and a Record of Decision (ROD) for OU1 was issued in March 1994. The remedy for OU1 initiated groundwater delineation, collection of data on aquifer response for remediation, and the restoration of groundwater to prevent possible future exposure to contaminated groundwater. A Unilateral Administrative Order was issued to several potentially responsible parties in May 1994, to complete the remedial design (RD) or remedial action (RA). CGC has complied with the Order by implementing the RD activities. The most

recent investigations have shown that although the groundwater extraction and treatment system has been operation for several years, the groundwater contamination has migrated off-site. At this time CGC has discontinued treatment activities. EPA, using Superfund money has taken over this cleanup and the effectiveness of this treatment system is currently being evaluated. OU2 addresses contamination of the soils on properties located on Martin Luther King Drive and Oak Street, which were proposed for redevelopment. EPA issued a ROD for OU2 in September 1995. Redevelopment of these properties included the building of a new library, and the renovation of the Troutman House and an office building into a Welcome Center and an Adult Education Center respectively. This redevelopment was expected to minimize exposure to contamination on these properties. This redevelopment was completed in 1998. In addition, deed restrictions were filed to prevent use of these properties for residential purposes. OU3 addresses contamination on the property of the former Woolfolk Chemical Works facility including soils, surface/stormwater sewer system, buildings, and an existing cap on the site. A ROD for OU3 was signed in 1998. However, during the public comment period, CGC indicated that there were inaccuracies in the calculations of the volume of soil and debris to be excavated from the cap area. Because of sampling activities conducted during RD, EPA found that CGC was correct. The ROD for OU3 is being re-evaluated and EPA is currently reviewing comments received during the public comment period regarding the preferred alternative. OU4 addresses contamination in attic dust and soils, and in sediments along the drainage ditch to Spillers Street. EPA is currently reviewing comments received regarding the preferred alternative for addressing contamination at OU4. Several hundred samples have been taken in all. During the OU4 sampling activities, 3 attics and several residential properties were identified with arsenic concentrations exceeding emergency response thresholds (attics >1000 ppm; soil > 30 ppm). As a result, the properties were addressed by EPA's emergency response branch. OU5 addresses contamination along the drainage ditch as it extends from the Spillers Street pipe to beyond the railroad discharge into the upper tributary of Big Indian Creek. The ditch was originally to be addressed as part of OU4 but additional sampling and evaluation is needed before cleanup alternatives can be developed. The new OU was created to allow time for this additional work without delaying cleanup activity in OU4.

IV. Remedial Actions

Remedy Selection

OU1

The original Record of Decision was signed on March 25, 1994. The selected remedial action for this site included testing to determine extent of contamination, development of groundwater treatment system, discharge of treated water to the Publicly Owned Water Treatment Works, institutional controls, monitoring of existing and newly installed groundwater monitoring wells, and development of an O&M plan. The function of this remedy is to ensure that there is no exposure to or migration of contaminants.

The major components of the selected remedy as stipulated in the Record of Decision include:

- Testing to determine extent of contamination and withdrawal of contaminated groundwater from The Surficial, Upper Cretaceous (UC) water table, and UC confined aquifer;
- Treatment on Woolfolk property of contaminated groundwater using iron co-precipitation and sand filtration with activated carbon adsorption as polishing steps, if necessary;
- Discharge of treated water to Publicly Owned Water Treatment Works (POTW), with contingency for a National Pollution Discharge Elimination System (NPDES) permit for surface water discharge should POTW not be able to handle the water, or an infiltration gallery should NPDES permit be unattainable;
- Institutional controls, such as deed restrictions to limit the use of groundwater at the site until cleanup standards are met;
- Groundwater monitoring of specific wells, including the city wells, to be further defined during Remedial Design/Remedial Action (RD/RA) and closing/abandoning other monitoring wells used during the RI/FS; and
- Operation and Maintenance (O&M) of the full system to be defined by and O&M Plan during the Remedial Design.

The estimated total cost for this remedial action was $2,390,000 with O&M costs of $90,000 over a 30-year period. This was clarified in an Explanation of Significant Difference (ESD) that was signed September 19, 1994. The ESD stated the new estimate to be $5,100,000 with O&M costs assumed to be the same.

Performance Standards

Performance standards for groundwater are contained in Table 2. They have been generated to ensure localized isolation and treatment of contaminated groundwater, which exceeds the health-based groundwater performance standards. The standards are based on a $1x10^{-6}$ risk level for carcinogens and a hazard quotient of 1 for noncarcinogens. Setting the performance standards for the groundwater contamination at the $1x10^{-6}$ risk level is consistent with the NCPs requirement for establishing performance standards within the $1x10^{-4}$ to $1x10^{-6}$ range. These groundwater performance standards applied at the site are to ensure that no future groundwater consumers will be exposed to unacceptable concentrations of the COCs.

Treatment Standards – Groundwater shall be treated until the performance standards set forth in Table 2 are attained. This shall be measured at the wells designated by EPA.

Discharge Standards – Discharges from the groundwater treatment system shall comply with all ARARs, including, but not limited to, substantive requirements of the NPDES permitting program under the Clean Water Act, 33 U.S.C. (1251 et seq., and all effluent limits established by EPA).

Design Standards – The design, construction and operation of the groundwater treatment system shall be conducted in accordance with all ARARs, including but not limited to the

RCRA requirements set forth in 40 C.F.R. Part 264 (Subpart F-Groundwater monitoring requirements).

All identified ARARs are presented in Attachment C of this review.

Table 2
Groundwater Performance Standards

Chemical	Standard[1] (ug/L)	Chemical	Standard[1] (ug/L)
Arsenic	50(Updated to 10)	Dieldrin*	0.005
Cadmium	5	bis(2-ethylhexyl)phthalate*	6
Chromium	100	acetone*	4000[3]
Lead*	15[2]	chloroform*	3
Manganese*	200[3]	carbon disulfide*	300[3]
alpha-BHC*	0.01	1,2-dichloroethane	5
beta-BHC*	0.05	1,2-dichloropropane*	5
delta-BHC*	0.01[4]	Tetrachloroethene*	5
gamma-BHC	0.2		

Notes:

[1] The COCs in this column are cancer-causing substances unless otherwise noted. The risk-based concentrations represent a 10^{-6} risk level (or an increased chance of one additional case of cancer in one million people). Exception: The risk level for Arsenic at the MCL level is 2.5×10^{-3}.

[2] EPA standard from Lead and Copper Rule, 56 FR, June 7, 1991.

[3] This chemical is a non-cancer causing substance. The performance standard is based on a concentration which is not likely to produce harmful effects (HQ=1).

[4] The health/risk-based number is based on the toxicity of alpha-BHC.

* Performance standard is risk-based in absence of MCLs.

OU2

The original Record of Decision was signed on September 25, 1995. The selected remedial action for this site included removal of contaminated soils, land use consistent with redevelopment for a new library and renovation of two existing structures, as well as, institutional and engineering controls. The function of this remedy is to ensure that there is no exposure to or migration of contaminants.

The major components of the selected remedy as stipulated in the Record of Decision include:

- Due to prior removal actions at the site, there was limited removal or excavation necessary before implementation of redevelopment plan;
- Land use consistent with the proposed redevelopment plan for the new Peach County Public Library Building;
- Land use consistent with the renovation of two existing structures located at 201 Oakland Heights and 202 Oak Street for the purpose of a Welcome Center and the Adult Education Center respectively; and

- Institutional and engineering controls, to ensure that future land use is non-residential and groundwater beneath the site cannot be used for any purpose as stipulated in the ROD.

The estimated total cost for this remedial action was $15,000. The cost would mainly be associated with the engineering controls of landscaping and paving around library and renovated buildings. Those purchasing the properties will pay the cost of building the library and renovation of the buildings.

Performance Standards

Performance standards for soil are contained in Table 3. These standards assume non-residential use. The performance standards are established at the lower of: (1) the $1x10^{-5}$ risk level, (2) the hazard quotient of 1, or (3) the groundwater protection standard. This is considered protective because the future receptor with the greatest calculated cumulative risk (the future institutional worker) is $2x10^{-5}$, falls within the EPA's protective range.

USEPA considers Arsenic to be both a carcinogen and a systemic toxicant. Arsenic exposure via drinking water has been linked to increased incidents of skin cancer. Since Arsenic poses such a threat to humans, risk associated with ingestion of soil contaminated with Arsenic is not considered rigorous enough. Groundwater protection provides a more conservative approach to assessing risk. The performance standards have been developed using soil concentrations that are protective of groundwater.

Table 3
Soil Performance Standards

Chemical	Standard (mg/kg)	Chemical	Standard (mg/kg)
Arsenic	20(G)	endosulfan I	1880(R)
Lead	625(G)	endosulfan II	1880 (R)
aldrin	1.04(R)	heptachlor	3.91(R)
Alpha-BHC	2.8(R)	heptachlor epoxide	1.94(R)
beta-BHC	0.5(G)	methoxychlor	1570(R)
delta-BHC	6.02(R)	PCB 1254	2.29(R)
gamma-BHC (Lindane)	0.066(G)	toxaphene	16(R)
Chlordane-alpha & gamma	13.5(R)	benzo(a)anthracene	24.1(R)
DDE	9.8(G)	benzo(b/k)fluoranthene	24.1 (R)
DDT	8.1(G)	benzo(a)pyrene	24.1 (R)
dieldrin	1.6(R)*		

Notes:
(G) Based on EPA's Site-Specific Protection of Groundwater Action Levels
(R) Based on Site-Specific Risk Assessment
*The performance standard for dieldrin has been calculated to a 1.45×10^{-5} risk level which is within EPA's acceptable risk range (1×10^{-6} to 1×10^{-4}) and appropriate for the proposed use of the property. This risk is only slightly higher than the other contaminants which were calculated at 1×10^{-5}.

V. Progress Since the Last Review

This was the first five-year review.

VI. Five-Year Review Process

The purpose of a five-year review is to determine whether the remedy at a site is protective of human health and the environment. A five-year review does not reconsider decisions made during the selection of the remedy, but evaluates the implementation and performance of the selected remedy.

Document Review

In July 2003, Sherry McCumber-Kahn, Environmental Engineer, and Mark Harvison, Chemist, both with the US Army Corps of Engineers (USACE), Savannah District, began reviewing the project files sent on three CD-ROMs by the EPA Project Manager, Charles King. Site documents are available on repository at the Peach County Public Library. Documents that were reviewed were related to site investigations, feasibility studies, the

RODs, sampling reports, and monitoring data. The complete list of documents reviewed for this report is included as Attachment A.

Data Review

Since groundwater monitoring and groundwater treatment have both been stopped at the Woolfolk Chemical Works Site, there is no current data available for review. It is known that contamination has migrated off-site with Arsenic, the BHCs and dieldrin being the main contaminants of concern. The reestablishment of monitoring and treatment is currently under consideration by EPA.

Site Inspection

An inspection of the Woolfolk Chemical Works EPA Superfund site was performed by Sherry McCumber-Kahn and Mark Harvison, both with the US Army Corps of Engineers (USACE), Savannah District, on 10 June 2003. Charles King, Project Manager with EPA Region 4 was also on-site during the inspection. The purpose of the inspection was to assess the protectiveness of the completed remedy. The inspection generally included visual observation of the perimeter fencing used to restrict access, the condition of the cap, and inspection of the areas immediately adjacent to the site, as well as, a drive around what is considered to be the farthest outreaches of the plume. The general appearance of the site can be seen from Photographs in Attachment B to this review.

The perimeter fencing appears to be in relatively good condition. The on-site cap also appears to be in good condition.

Interviews (Please see attachment D for Outlines of Interviews)

Interviews were initiated to get more specific input from involved or interested parties. The EPA Remediation Project Manager (RPM) provided several names of individuals who would be able to give perspective on the positions of the stakeholders.

James Sliwinski, GA EPD

On 15 September 2003, Sherry McCumber-Kahn interviewed Jim Sliwinski. Mr. Sliwinski, the EPD contact, has been working on this project for quite some time. He is interested in helping the citizens of Fort Valley get some relief from this longstanding problem.

Claude Terry, Ph.D., TAG Advisor

On 15 September 2003, Sherry McCumber-Kahn interviewed Dr. Terry. He is a very strong advocate for the citizens of Fort Valley. However, he insists on basing his recommendations on good scientific data.

Tim Eggert, Contractor with CDM Federal

On 19 September 2003, Sherry McCumber-Kahn held a conversation with Tim Eggert about the Woolfolk Site. This conversation was mainly technical in nature. Mr. Eggert is especially familiar with OU4. He conducted the Remedial Investigation for OU4. He provided copies of the most recent data from reports by CH2M Hill.

John Stumbo, Mayor of Fort Valley, GA

On 22 September 2003, Sherry McCumber-Kahn interviewed Mayor Stumbo. The Mayor is concerned with moving things forward. However, he wants the most protection for the citizens of Fort Valley. He sees the redevelopment of this site as critical for Fort Valley.

No other individuals familiar with the site and its status were interviewed.

VII. Technical Assessment

Question A: Is the remedy functioning as intended by the decision documents?

OU1

The review of documents, ARARs, risk assumptions, existing analytical data and site inspections indicate the remedy is not functioning as intended by the ROD that has been signed to date. Groundwater contamination at the site persists above action levels and although the groundwater extraction and treatment system has been in operation for several years, the groundwater contamination has migrated off-site.

OU2

The properties at OU2 have been redeveloped into the new Peach County Public Library with the exception of the two properties that were renovated. Review of all available materials indicates that the remedy is functioning as intended, to prevent exposure to contaminated soil and to prevent any use of groundwater at this site.

OU3, OU4, & OU5

Do not have established remedies at this time.

Question B: Are the exposure assumptions, toxicity data, cleanup levels and remedial action objectives (RAOs) used at the time of the remedy selection still valid?

OU1

There have been no physical changes in the site or surrounding properties that would affect the protectiveness of the remedies. The MCL for Arsenic has been lowered to 10ug/L. This change does affect the protectiveness of the remedy for OU1. It will influence the design of the treatment system. It is a much lower performance standard to reach.

OU2

There have been no physical changes in the site or surrounding properties since the redevelopment was completed that would affect the protectiveness of the remedy. The performance standards are based on soil levels that are protective of groundwater. This does affect the protectiveness of the remedy, since the MCL for As has been lowered to 10 ug/L.

ARARs identified and listed in the Woolfolk ROD addressed a broad range of federal chemical specific and action specific ARARs. As stated in the 5-year review guidance, the focus of an ARAR review should be limited to those ARARs that have the potential to impact human health and the environment and specifically address the protectiveness of the remedy. To that end, ARARs, called out in the ROD, that were associated with construction and operation and maintenance activities of the remedy are not addressed in this review. Those ARARs associated with the protection of the remedy are the specific focus of the review.

Of the ARARs listed in the ROD, the following Federal chemical-specific and action-specific ARARS were carried forward for assessment.

OU1

Federal and/or State chemical-specific ARARs

Clean Water Act – 33 U.S.C. 1251-1376

Resource Conservation and Recovery Act – 42 U.S.C. 6901-6987

Clean Air Act – 42 U.S.C. 7401-7642

Safe Drinking Water Act – 40 U.S.C. 300

Please see Attachment C for complete listing.

Federal and/or State action-specific ARARs

Please see Attachment C for complete listing.

OU2

Federal and/or State chemical-specific ARARs

SDWA MCLs and MCLGs

To Be Considered:

Integrated Risk Information System (IRIS) Tables

Health Effects Assessment Summary Tables (HEAST)

Risk Assessment Guidance for Superfund, Volume 1, "Standard Default Exposure Factors"

Please see Attachment C for complete listing.

Federal and/or State action-specific ARARs

Georgia requirements regarding the closure of abandoned wells

Georgia rules for air quality

OSHA-Worker Protection

To Be Considered:

Georgia Rules for Hazardous Response, Chapter 391-3-19-.08 (Property Notices)

Please see Attachment C for complete listing.

Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

OU1

Yes, other information has come to light that calls into question the protectiveness of the remedy. Use of the groundwater treatment system has been terminated by the PRPs and contamination had already migrated off-site before termination. There is some concern among stakeholders that the current configuration of the treatment system is insufficient to adequately remediate the groundwater and to keep contamination on-site. Since the PRPs stopped operation of the pump and treat system, EPA has been using Superfund money to take over this clean-up and the effectiveness of this treatment system is currently being evaluated. Because of stakeholder concerns and the change in performance standard in groundwater for Arsenic, this further investigation by EPA is merited.

OU2

No, other information has not come to light that calls into question the protectiveness of the remedy. However, one of the main concerns of the citizens' group is that since the Troutman House and the Adult Education Center were only renovated, no excavation could be done underneath the buildings. This leaves open the issue of Arsenic leaching out from underneath the buildings. Since Arsenic in the soils near the site, which have low pH values (3.5 – 6), is extremely mobile, recent heavy rains could very well create a situation where leaching and runoff could occur, opening up migration pathways to surface water and possibly groundwater. The counterpoint to this is that levels in the surrounding yards were very low. Expectation, therefore, for soils underneath the buildings would be that concentrations would be low. Samples should be taken to alleviate the concerns of the citizens.

Technical Assessment Summary

OU1

Based on the data reviewed, the site inspection and interviews with the stakeholders, the remedy is not functioning as intended by the ROD. There have been no changes in the physical conditions of the site that would affect the protectiveness of the remedy. ARARs for drinking water were evaluated to determine if the remedy is still protective. Based on the ARAR review, the value for the Arsenic drinking

water standard (i.e. MCLs) has changed in a way that would affect the protection of the remedy. The remedy will have to be evaluated or adjusted to provide remediation levels that reflect the new groundwater standard. Groundwater contamination at the site persists above action levels and requires continued monitoring and investigation to determine the extent to which contamination has migrated offsite. The groundwater treatment system should be evaluated and redesigned as needed.

VIII. Issues

Issue	Currently Affects Protectiveness (Y/N)	Affects Future Protectiveness (Y/N)
Groundwater contamination still detected above Action Levels	Y	Y
Subsurface soil contamination still detected above Action Levels	Y	Y
Surface soil and sediments contamination still detected above Action Levels	Y	Y
Buildings with contamination still detected above Action Levels	Y	Y
Attic dust contamination still detected above Action Levels	Y	Y

IX. Recommendations and Follow-Up Actions

Issue	Recommendation/ Follow-Up Actions	Party Responsible	Oversight Agency	Milestone Date	Affects Protectiveness (Y/N)	
					Current	Future
Groundwater contamination – OU1	Continue monitoring to ensure that ground-water contamination is not migrating offsite.	EPA	EPA		Y	Y
Groundwater contamination – OU1	Reinstate a groundwater treatment system	EPA	EPA		Y	Y
Subsurface Soil Con-tamination - OU2	Take soil samples from under the two renovated buildings to	EPA	EPA		N	N

	address citizens' concerns.					
Surface Soil (SS) & Sediment Contamination – OU3	Continue to follow through with finalizing the ROD and RD/RA.	EPA	EPA		Y	Y
Subsurface Contamination – OU3	Continue to follow through with finalizing the ROD and RD/RA.	EPA	EPA		Y	Y
Building Contamination – OU3	Continue to follow through with finalizing the ROD and RD/RA.	EPA	EPA		Y	Y
Attic Dust Contamination – OU4	Continue investigation and remediation efforts.	EPA	EPA		Y	Y
Residential SS – OU4	Continue investigation and remediation efforts.	EPA	EPA		Y	Y
SS and Sed. Contamination – OU5	Continue investigation efforts.	EPA	EPA		Y	Y

The recommendations in the table above are designed to address all OUs and media types. OU3, OU4, and OU5 do not have RODs associated with them yet. The next 5-Year Review will address those issues more fully.

X. Protectiveness Statement

OU1

The remedial actions taken at OU1 are not protective of human health or the environment because the current groundwater extraction and treatment system was unable to contain the plume of contaminated groundwater within the site boundaries. There is also a question of whether the system is adequate in its present configuration to keep the contamination from migrating off-site since this has already happened. Although the contaminated groundwater continues to migrate off the site, based on the information available, all residents are using municipal water and are not being exposed to the contaminated groundwater. These remedies are expected to be protective once all problems have been addressed.

OU2

The remedial actions at the site are protective of human health and the environment. However, it is recommended that additional testing be considered underneath the renovated buildings to alleviate citizens' concerns.

XII. Next Review

The next five-year review for the Woolfolk Superfund Site is required by September 2008, five years from the date of this review. The next review should determine whether follow-up has been done on recommendations. It should also further evaluate the status of the OUs that do not currently have a final signed ROD (i.e. OU3, OU4, and OU5).

Attachments

Attachment A
List of Documents Reviewed

REFERENCES

1. Record of Decision – Summary of Remedial Alternative Selection Woolfolk Chemical Works Site, Fort Valley, Peach County, Georgia, Operable Unit #1: Groundwater Contamination, prepared by USEPA Region IV, March 1994.
2. Record of Decision – Summary of Remedial Alternative Selection Woolfolk Chemical Works Site, Fort Valley, Peach County, Georgia, Operable Unit #2: Contamination of Soil on Properties Between MLK Drive and Oak Street Proposed for Redevelopment Project, prepared by USEPA Region IV, September 1995.
3. EPA Abstract of Record of Decision for OU2 http://cfpub.epa.gov/superrods/rodinfo.cfm?mRod=04013151995ROD246
4. Draft Record of Decision – Summary of Remedial Alternative Selection Woolfolk Chemical Works Site, Fort Valley, Peach County, Georgia, Operable Unit #3: On-Facility Contamination, prepared by USEPA Region IV, August 1998.
5. EPA Abstract of Record of Decision for OU3 http://cfpub.epa.gov/superrods/rodinfo.cfm?mRod=04013151998ROD111
6. U.S. Environmental Protection Agency Superfund Proposed Plan Fact Sheet – Woolfolk Chemical Works Site, Operable Unit 1, January 1994.
7. USEPA Explanation of Significant Difference - Woolfolk Chemical Works National Priorities List Site, Fort Valley, Georgia, September 1994.
8. U.S. Environmental Protection Agency Superfund Proposed Plan Update – Woolfolk Chemical Works Site, Operable Unit 2, August 1995.
9. U.S. Environmental Protection Agency Superfund Revised Proposed Plan Fact Sheet – Woolfolk Chemical Works Site, Operable Unit 3, July 2003.
10. U.S. Environmental Protection Agency Superfund Proposed Plan Fact Sheet – Woolfolk Chemical Works Site, Operable Unit 4, July 2003.
11. Excerpt from "Groundwater Monitoring Report for May – August 2001, Former Woolfolk Chemical Works" created for EPA by CH2M Hill.
12. Woolfolk Chemical Works NPDES Discharge Monitoring Report, April 1 – 30, 2001
13. Woolfolk Chemical Works Site (Fort Valley, Georgia) Summary of Proposed Plan for Operational Units 3 and 4 (OU3 and OU4), July 2003.
14. Final Baseline Risk Assessment of the Woolfolk Chemical Works Site, November 1992.
15. Phase II Remedial Investigation Field Sampling and Analysis Plan (FSAP) Woolfolk Chemical Works Site, February 1992.
16. Volume 1 Final Feasibility Study Report, Woolfolk Chemical Works Site, Fort Valley, Georgia, December 1993.
17. Volume 2 Feasibility Study Report, Woolfolk Chemical Works Site, Fort Valley, Georgia, October 1993.
18. Final Feasibility Study Addendum, Operable Unit No. 2 – Off-site Non-Residential Properties, Woolfolk Chemical Works Site, Fort Valley, Georgia, July 1995.
19. Draft 3 Revision 1 Feasibility Study Addendum, Operable Unit No. 3, Woolfolk Chemical Works Site, Fort Valley, Georgia, April 1997.

REFERENCES CONT'

20. Draft Final Remedial Investigation Report, USEPA, Woolfolk Chemical Works Site, OU-4, Peach County, Fort Valley, Georgia, June 2002.
21. Draft Final Feasibility Study Report, USEPA, Woolfolk Chemical Works Site, OU-4, Peach County, Fort Valley, Georgia, June 2002.
22. Draft Workplan Task 3 Report – Complete Target Home Sampling, Fort Valley, Georgia, Residential Attic Dust Contamination Assessment Study, Revised January 2002.
23. Draft Task 3 Report – Complete Target Home Sampling, Fort Valley, Georgia, Residential Attic Dust Contamination Assessment Study, Revised January 2002.

Attachment B

Images Documenting Site Conditions

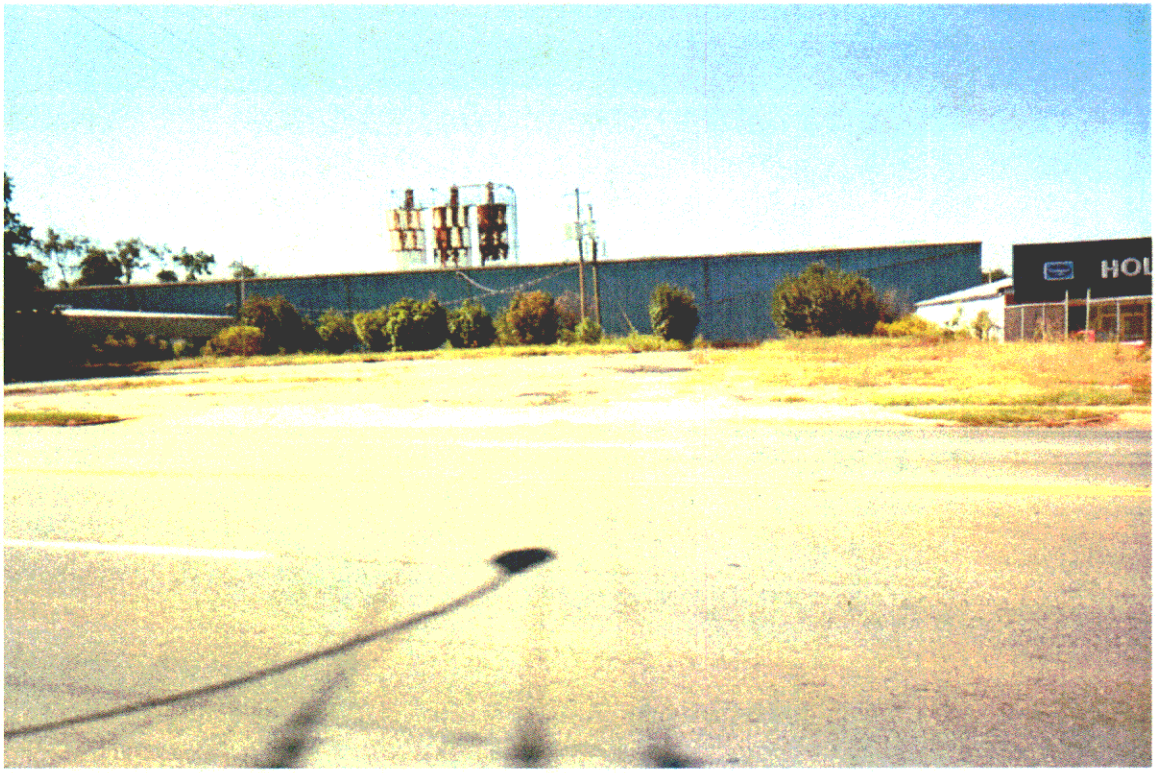
Troutman House – Redeveloped property.

Troutman House – Side view of redeveloped property.

Peach County Public Library – Built on remediated properties.

Peach County Public Library – View of the north end of property.

Peach County Public Library – View of the south end of property.



View of Woolfolk Chemical Works Site from sidewalk directly in front of library.

View of Woolfolk Chemical Works site from the north end facing south (standing water on right side property).

Fenced in field on Preston Street between Jacob Alley and Pine Street, directly across from the plant.

Buildings on left side and right side of Preston Street are part of Woolfolk Chemical Works site.

Closer view of buildings on north west (left side) end of Preston Street.

Capped area on north east end of site.

Main processing plant – view from Preston Street.

Warehouses associated with main processing plant.

Warehouse and southern end of property.

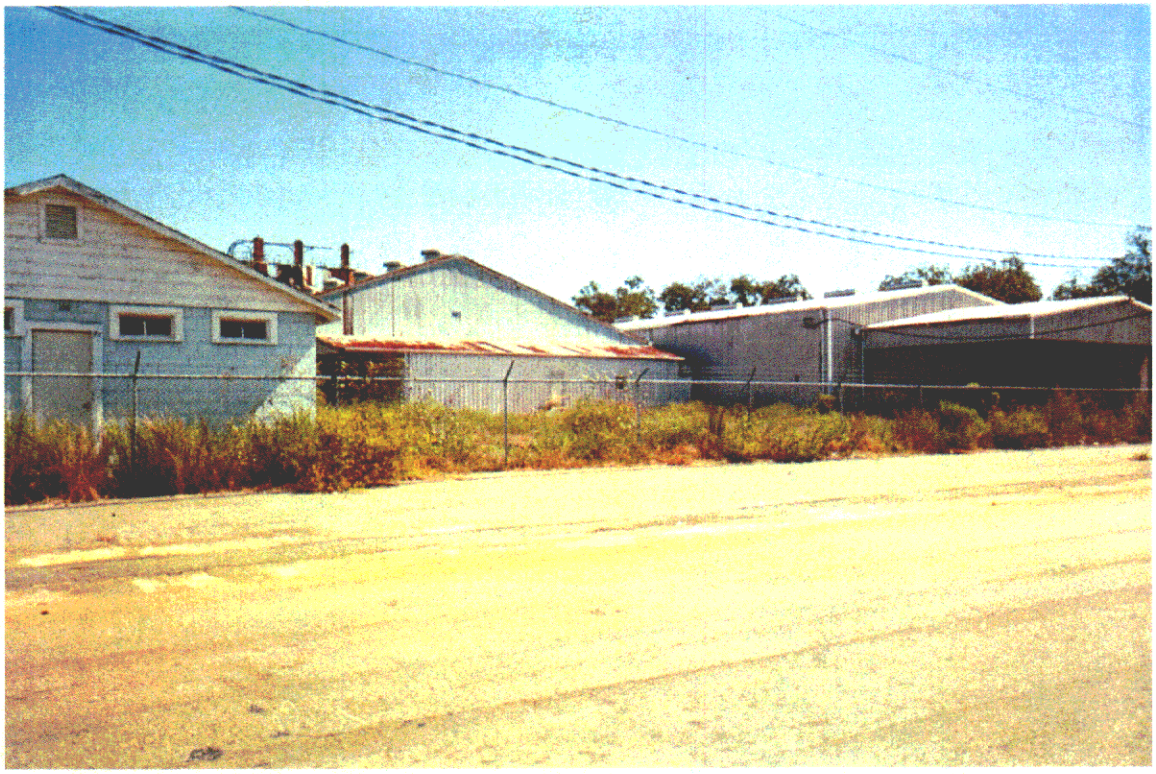
Southern end of property and example of drain to stormwater sewer system.

View of southern end of property as it is adjacent to the neighborhood.

Baseball field adjacent to restricted site between Jacob Alley and Pine Street.

Capped area on north east end of site.

Main processing plant – view from Preston Street.



Warehouses associated with main processing plant.

Warehouse and southern end of property.

Southern end of property and example of drain to stormwater sewer system.

View of southern end of property as it is adjacent to the neighborhood.

Baseball field adjacent to restricted site between Jacob Alley and Pine Street.

Attachment C
Lists of ARARs

Appendix B

Record of Decision, Operable Unit #2, Woolfolk Chemical Works

ARARs AND "TO BE CONSIDERED"

Item	Type	Prerequisites	Description	Citation
SDWA MCLs and MCLGs	Chemical-Specific Relevant and Appropriate	Property meets soil concentrations that will protect the groundwater aquifers from exceeding these values based on leaching.	Groundwater protection criteria are established that will protect the groundwater resources.	40 CFR 141
Georgia requirements regarding the closure of abandoned wells	Action-Specific Applicable	Wells requiring abandonment may be encountered.	State requirements for closure of abandoned wells.	Water Well Standards Act of 1991, OCGA 12-5-120 et.seq.
Georgia rules for air quality control	Action-Specific Applicable	Excavation and Construction.	State requirements for air quality control	GA Rule 391-3-1
OSHA-Worker Protection	Action-Specific Applicable	Excavation and construction.	Worker protection requirements.	29 CFR 1910 29 CFR 1926
National Archaeological and Historical Preservation Act	Location-Specific-Potentially Applicable	Should scientific, prehistorical, historical artifacts be found at the site, this could be applicable. This could apply to historical building.	If actions were to cause irreparable harm, loss, or destruction of significant artifacts, then recover or preservation of the artifacts would be required.	36 CFR 65
Integrated Risk Information System (IRIS) Tables	Chemical-Specific To Be Considered	Property meets standards which ensure risk levels identified in IRIS are not exceeded.	IRIS provides health risk information for specific chemicals.	1994, Online. EPA Office of Health and Environmental Assessment

Item	Type	Prerequisites	Description	Citation
Health Effects Assessment Summary Tables (HEAST)	Chemical-Specific To Be Considered	Property meets standards which ensure risk levels identified in HEAST are not exceeded.	HEAST provides health effects information for specific chemicals.	1993. EPA Office of Solid Waste and Emergency Response
Risk Assessment Guidance for Superfund, Volume 1, "Standard Default Exposure Factors"	Chemical-Specific To Be Considered	Property meets standards which ensure exposure levels identified in guidance are not exceeded.	Exposure factors are provided for use in developing risk assessments.	March 25, 1991 EPA guidance document PB91-921314
Georgia Rules for Hazardous Site Response, Chapter 391-3-19-.07 (Risk Reduction Standards)	Chemical- and Action-Specific To Be Considered		The Risk Reduction Standards for Hazardous Site Cleanups under state law.	Chapter 391-3-19, Rules of the Georgia Department of Natural Resources
Georgia Rules for Hazardous Response, Chapter 391-3-19-.08 (Property Notices)	Action-Specific To be Considered		The Property Notice requirements for Hazardous Site Cleanups under state law.	Chapter 391-3-19, Rules of the Georgia Department of Natural Resources

Attachment D
Outlines of Interviews

Woolfolk NPL Site

Discussion with James Sliwinski, GA EPD
September 15, 2003

Called Jim Sliwinski to discuss the Woolfolk Chemical Works Site in Fort Valley, GA. We discussed by addressing each operable unit (OU).

OU1

- Groundwater contaminaton
- Contamination has gone off-site
- Canadyne GA Corporation (CGC) left site
- EPA has proposed putting in more monitoring wells. At this time, EPD has not made a determination of whether the treatment system is sufficient to do the job.
- EPD views the existing ROD as an interim measure, not a final means of addressing the groundwater contamination.
- Possibility of amendment

OU2

- Off-site soil contamination
- Redevelopment: Library, Troutman House (Welcome Center), and office building (Adult Education)
- Done
- Some individuals in community were against this plan.

OU3

- On-site soil, buildings, cap, and surface/stormwater contamination
- The surface/stormwater contamination has been remediated to Lavender Street.
- Nothing has been done to cap.
- CGC said that the ROD was not correct, that EPA's calculation of removal volume was too low.
- EPA reevaluated ROD and realized that the volume estimate was too low and that additional funds would be needed for remediation. However, the new calculation brings the volume from 8000 yd^3 to 36,000 yd^3 for the ROD.
- The other change affecting the ROD is that the MCL for Arsenic changed from 50ug/L to 10 ug/L. This affected the clean-up goal for subsurface soils. The subsurface clean-up goal went down from 113 ppm to 23 ppm. Since the State's ARARs set the level at 20 ppm, both are stated in the proposed action, but 20 ppm is the actual goal to be met. The change in the subsurface clean-up goal also affected the volume of soil to be excavated. The soils to be excavated are of two types: the soil with high levels of contamination from the cap area and the soils from lower levels of contaminaton (between 20 and 113 ppm) that can be used as backfill for the cap area. The issue of how each soil type is to be disposed of

becomes complicated and can be referenced in either the proposed plan fact sheet or the proposed plan itself.
- ROD is not finalized at this time.

OU4
- Off-site soil, attic dust, and off-site drainage system (to Big Indian Creek)
- Much sampling done but still in investigative phase

OU5
- Brand new.
- Related to ecological risk assessment associated with off-site soil contamination

General
- If interested in more hydrologic detail, call Bob Pierce, Senior geologist for GA EPD; phone number (404) 656-2833.
- Alliance group meets every other month; next meeting is Oct. 21, 2003, 10 am, Fort Valley City Hall.
- Contact Angela Leach, US EPA to be put on mailing list.
- Toxaphene and most other pesticides just packaged at site, not processed

Woolfolk NPL Site

Discussion with Claude Terry, Ph.D., TAG Advisor
September 15, 2003

Called Dr. Terry to discuss the Woolfolk Chemical Works Site in Fort Valley, GA. Dr. Terry is a board certified toxicologist. We discussed by addressing each operable unit (OU).

OU1

- Groundwater recovery system has ~ 24 or 25 wells associated with it. These are 2" monitoring wells that were converted to use as recovery wells.
- System was stopped August, 2002. It had not kept arsenic or lindane on-site.
- EPA intends to operate the system. They have proposed putting in ~20 additional wells to delineate the plume. This proposal includes using 4" stainless steel pipe so that the monitoring wells could eventually be converted to recovery wells. Dr. Terry sees a problem with the cost effectiveness of these actions. The 2" wells are not adequate for pumping the necessary volume to keep contamination on-site, and the 4" wells could draw even more off-site. He believes that it is a waste of money to chase a low level plume that is making its way under agricultural property when the limited funds available would be put to better use in town, for example sampling and analyzing the 14 city wells that are affecting everyone. He agrees that given unlimited funds, delineating the plume would be a good idea, but he still questions the idea of converting those monitoring wells to recovery wells.
- EPA has agreed to have CDM sample the city wells and analyze for arsenic and perchloroethene, as well as, measure water levels.
- Possibility of amendment

OU2

- Emergency clean-up.
- Many in community were against this, however, they did not like being accused of not valuing libraries or education. So, they let it go.

OU3

- In 1986 the PRP began tearing up the plant and created a landfill on-site to hold the debris. They placed a RCRA "type" cap on it. The State never approved the landfill, but they never made them dig it up.
- It will cost ~ $10 M to remove cap and dig up waste to just above groundwater. EPA has decided not to excavate below groundwater level, but to stabilize the bottom of excavation.
- ROD not finalized at this time because EPA wants to combine OU3 and OU4 actions. They want to excavate both areas at the same time. They would then pave these areas (~ 2 acres) with 2 feet of asphalt (Matcom). This can be left as is

or covered with soil if a decision is made to create a park. Any lower levels soils excavated from residences' yards would be used as fill for the cap area.

- RI/FS done.

General

- City wells #1, #2, & #5 are on the north side of railroad tracks; #1 and #2 have been closed; #5 pumps about 1000 gal/min. Cone of influence has reversed direction of groundwater.
- Another problem with the City wells is that when they close them, they do not plug them to groundwater.
- Main pesticides and byproducts that were actually produced on-site were lead arsenate, calcium arsenate, some incidental zinc arsenate, lime sulfur, and arsenic trichloride. Other pesticides were just packaged.
- Advocates for citizens, but tries to be scientifically accurate.

Woolfolk NPL Site

Discussion with John Stumbo, Mayor of Fort Valley, GA
September 22, 2003

Called Mayor Stumbo to discuss the Woolfolk Chemical Works Site in Fort Valley, GA. He has been involved with the Alliance for the past six years. We discussed the site by addressing each operable unit (OU). We started out by my giving a brief summary of what each OU was concerned with, and he followed by giving his views/concerns.

OU1

USACE

- This OU is concerned with the groundwater contamination at the site. Contamination has migrated off-site and the treatment system is not currently in use.

Mayor

- Is contamination being fed by capped area? If source area is still present, more pumping of wells will probably not address the problem.
- The more the wells are pumped, the more water that is contributed to the city's wastewater treatment plant. This takes up vital capacity and costs the city money.
- It will cost money to reestablish monitoring system. Available money is limited. So, priorities need to be set.

OU2

USACE

- Redeveloped area with library, Troutman House Welcome Center, and Adult Education Center.

Mayor

- This OU has not been a significant concern since contamination may not be at high levels here.

OU3

USACE

- This OU concerns the on-site contamination. The ROD is still up for public comment.

Mayor

- According to the EPA, if there is a significant variance in numbers associated with a ROD, it can be reconsidered and a ROD amendment can be sought. Not sure whether this was necessary, but it has already been done.
- What will the public comments be and will they influence the EPA's decisions?
- Does EPA have an accurate understanding of real cost to remove everything as opposed to just removing down to 15 feet?
- It would be easier to agree with EPA's decisions if it becomes clear that we cannot get all money needed to remove all contamination and that we could be

guaranteed that left over material is encapsulated. In other words, we would have to make a couple of assumptions: 1. doing nothing is not an option; and 2. there is not sufficient amount of money to remove all contamination. We still need to ask whether all money needed can be provided by the Superfund. We have to look at protected compromise.

OU4

USACE

- This OU was mainly concerned with attic dust and soils. This is still in investigative phase. The RI has just recently been finished but there is still more to address. Do you think that the approach for remediating this OU is reasonable?

Mayor

- Yes the approach is reasonable.
- The questions remain, "Have we tested everyone we need to test? How far out do you go?" This is an area where the EPA has not established a lot of standards, but we seem to have gone out as far as needed.

OU5

USACE

- This OU has still not been clearly defined, but is related to the remaining contamination along the drainage pathway that has been separated from OU4. It may or may not be related to an ecological risk assessment to be done in that area. Do you know much about this OU? Have you discussed it much in your Alliance meetings?

Mayor

- No, we have not discussed it much. We have been waiting for other more pressing matters to be discussed and acted upon.

General

Mayor

- My role is to provide leadership. So, I have taken an active part in the Alliance created to address these issues. However, I may have differing opinions.
- There is a methodological question here. How do you reach a consensus? How do you enable people to come to an agreement when not everyone agrees? Federal authorities will ultimately have to make a decision and impose it. I do not mean this in a negative way. Someone has to make a decision.
- I want to get on with redevelopment. I have to look ahead. We need a redevelopment plan that hopefull EPA will approve and that will motivate them to provide the money needed for the remediation.